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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,257	12/09/2003	Takeshi Hirose	SE-US035180	3330
22919 7590 03/08/2007 GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680			EXAMINER DIXON, ANNETTE FREDRICKA	
			ART UNIT	PAPER NUMBER
			3771	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/08/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/730,257

Applicant(s)

HIROSE, TAKESHI

Examiner

Annette F. Dixon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 30-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-58 is/are rejected.
- 7) ☒ Claim(s) 33, 34, 43 and 52 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/21/04; 5/13/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 1-29 and 59-67 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 11, 2006.

### *Drawings*

2. The drawings are objected to because the leader line is missing for reference character "4A" in Figure 2.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "13".
4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

5. Claim 33, 34, 43, and 52 are objected to because of the following informalities:

In Claim 33, Examiner believes the applicant may mean "...process that permits switching" as opposed to "...process that permit switching".

In Claims 34, 43, and 52, Examiner believes the applicant may mean "LED" as opposed to "EL backlight".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 30-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Furtura (JP 11-020787 A).

As to Claims 30, 40, and 49 Furtura discloses an information processing device for a diver adapted to be used for diving with at least a first and second cylinders respectively containing a first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders (Figure 3, elements 94) comprising: an oxygen partial pressure calculating and monitoring unit (60).

As to Claim 31, Furtura discloses at least one of said first and second cylinders contains oxygen as one of the diving gases. (Figure 3, elements 94)

As to Claims 32, 41, and 50, Furtura discloses the oxygen partial pressure calculating and monitoring unit includes: an oxygen partial pressure violation determining unit (98) configured to calculate an oxygen partial pressure and determine whether there is the possibility of oxygen poisoning or oxygen deficiency, and a notification unit (the combination of elements 10, 37, and 38) configured to notify the driver when there is the possibility of oxygen poisoning or oxygen deficiency.

As to Claims 33, 42, and 51, Furtura discloses the oxygen partial pressure calculating unit (60) is configured to execute a process that permits from said first cylinder to said second cylinder, when the driver selects to use said second cylinder while using said first tank, and upon a determination of no possibility of oxygen deficiency of oxygen poisoning based on an oxygen partial pressure value if said second cylinder is used (95).

As to Claims 34, 43, and 52, Furtura discloses said notification unit (the combination of elements 10, 37, and 38) is configured to notify the diver whether switching to said second cylinder is permitted by using at least one of display, alarm sound, or EL backlight. Specifically, Furtura discloses element 37 is an alarm sounding unit and element 10 is a display panel.

As to Claims 35, 44, and 53, Furtura discloses a time keeping section (68) section configured to measure an elapsed dive time; a water depth gauging section (61) configured to detect a water depth value at a diving location of the diver in accordance

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with a preset elapsed dive time; and a diving information storage unit (the combination of elements 54 and 53) configured to store said elapsed dive time and said detected water depth value.

As to Claims 36, 45, and 54, Furtura discloses an information device for a diver adapted to be used for diving with at least a first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders (Figure 3, elements 94) comprising: a switching condition storage unit (97) configured to store at least one switching condition during diving for each of said first and second cylinders, a switch destination cylinder selecting unit (5) configured to receive a user input for switching from said first cylinder to said second cylinder, while the diver is using said first cylinder; a safety determining unit (98) configured to determine whether there is a possibility of oxygen poisoning or oxygen deficiency if said second cylinder is used; and a warning unit (the combination of elements 10, 37, and 38) configured to warn the diver when the possibility of oxygen poisoning or oxygen deficiency has been determined.

As to Claims 37, 46, and 55, Furtura discloses a cylinder information presentation unit (10) configured to present to the diver information about said second cylinder when the diver has selected to switch to said second cylinder.

As to Claims 38, 47, and 56, Furtura discloses the information about said second cylinder includes a mixture ratio of the diving gases in said second cylinder and diving condition information in a situation when said second cylinder is used. In the display

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(10) shown in Figure 1, the mixture ratio is disclosed by element 118 and the diving condition information such as maximum depth is disclosed by element 113.

As to Claims 39, 48, and 57, Furtura discloses the diving condition information includes a permissible non-decompression dive time or decompression diving instruction, and partial pressure. In figure 1 of the display the dive time is disclosed by element 112 and the partial pressure is disclosed by element 905.

As to Claim 58, please see the rejection of claim 33, which addresses all the recited elements. Furthermore, Furtura discloses a computer readable recordable medium (the combination of 53 and 54) for storing a control program for controlling with a computer (51).

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 35, 38, 44, 47, 53, and 56 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 18, 22, and 23 of U.S. Patent No. 7,144 198. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims 35, 38, 44, 47, 53, and 56 are merely broader than patent claims 1, 2, 18, 22, and 23. For example: it is clear that all of the elements of claims 35, 38, 44, 47, 53, and 56 are found in patented claims 1, 2, 18, 22, and 23. The difference lies in the fact that the patented claims include many more elements and is thus much more specific. Thus the invention of the patented claims 1, 2, 18, 22, and 23 is in effect a "species" of the "generic" invention of the instant claims 35, 38, 44, 47, 53, and 56. It has been held that the generic invention is "anticipated" by the "species". See *In Re Goodman*, 29 USPQ2d 2010 (Fed Cir. 1993). Since claims 35, 38, 44, 47, 53, and 56 are anticipated by patented claims 1, 2, 18, 22, and 23, they are not patentably distinct from the patented claims.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cochran (US 5899204); Cochran (US 5794616); Clough (US 5503145);

Furuta (US 6618059); and Garofalo (US 5926779)




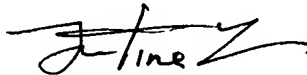
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Annette F. Dixon whose telephone number is (571) 272-3392. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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Art Unit 3771

  
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3/5/07